REMARKS

Applicants submit herewith an Information Disclosure Statement for consideration by the Examiner.

Claims 1-16 and 48 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse this rejection for the following reasons.

As a basis for this rejection, the Examiner states that since windows are not shown, it is not clear how the streamlets flow radially across the carriers and further, it is not clear how the metering of the flow occurs since it appears that this also occurs between the plates. Applicants respectfully point the Examiner to the specification and in particular to paragraph [0064] which states that:

> Each of the lamination carriers 13, 14 is provided with at least one radial opening or window (not shown in FIG. 1). As a rule, each of these carriers is provided with an annular array of openings or windows which serve to admit streamlets 9 of oil from the stream 7 and along the friction linings on the laminations 10a, 10b. The direction of flow of such streamlets 9 depends upon the direction of flow of oil in the stream 7. If the stream 7 flows from the non-illustrated source (e.g., a pump) to the turbine 5 and into the channel between the surfaces 3 and 4, the streamlets 9 flow through the bypass clutch 2 and substantially radially inwardly, i.e., from the windows of the carrier 13 toward and through the windows of the carrier 14. In addition to such radial streamlets 9, the torque converter 1 of FIG. 1 further provides one or more paths 29 for the flow of oil in at least substantial parallelism with the axis 16, i.e., from the safety ring 28 toward that annular sealing element 17 which is adjacent the welded seam 33 and operates between the outer lamination carrier 13 and the radially outermost portion of the biasing member 11. Such oil streams merge into the streamlets 9 at the radially inner side of the lamination carrier 14 and are discharged from the housing H by way of the channel 19 between the shafts 49 and 50. The paths 29 are provided radially inwardly of the outer lamination carrier 13.

Applicants respectfully submit that the above paragraph as well as other sections of the specification sufficiently describe the provision of windows in the carriers 13, 14 in terms of where they are formed and the function they provide. The reason that the windows are not visible in Fig. 1 is that the windows lie outside the section plane that is shown in Fig. 1. It is clear from be above discussion that the windows are simply an annular array of openings formed about the carrier that permit streamlets 9 to flow along the friction linings on the laminations 10a, 10b. Based on the foregoing, Applicants respectfully request reconsideration and withdrawal of this rejection since the nature of the windows is sufficiently described in the specification.

With respect to the Examiner's comments regarding the metering of flow between the plates, Applicants respectfully point the Examiner to paragraph [0086] of the printed publication which states:

> The other undertaking (which can be resorted to jointly with the aforedescribed first undertaking) involves the provision of at least one lamination (such as 10a or 10b) of the stack or package (10) of laminations in the bypass clutch with at least one opening (such as a window) which facilitates or promotes the flow of fluid through the bypass clutch. Openings or passages serving such purpose are shown in FIGS. 5a, 5b (as at 12) and in FIG. 6 (as at 112). The provision of such openings or passages at the radially innermost and/or outermost marginal portions of the laminations contributes to simplicity and lower cost of the solutions. Thus, the teeth at the inner and/or outer circumferences of the laminations rotating with the inner and/or outer lamination carrier cooperate with complementary teeth or tooth spaces of the adjacent parts (such as the inner and/or outer lamination carrier 14 and/or 13) to provide adequate paths for easier flow of fluid through the bypass clutch. The dimensions of internally and/or externally toothed parts of the components 10a, 10b, 13 and/or 14 of the bypass clutch can be readily selected in such a way that the rate of fluid flow through the bypass clutch is impeded to a desired (optimum) extent.

As explained above, both the provision of openings (windows) in the laminations and the profiling of the laminations and the adjacent carriers 13, 14 can be tailored so as to impede the rate

of flow through the clutch so as to optimize the rate of flow. This can be seen in the above mentioned Figs.

Based on the foregoing, Applicants request withdrawal of the outstanding rejection.

Claims 1-17 and 48 stand rejected under 35 U.S.C. 112, second paragraph. The Examiner contends that the notion that one would increase the rate of fluid by reducing the flow restriction and interfering with the same appears to be contradictory. Applicants respectfully submit that the claimed two undertakings are described in detail throughout the specification. For example, paragraphs [0085], [0086] and [0087] of the publication state that:

> As already mentioned hereinbefore, the method of the present invention can be carried out in a number of ways. One of these ways involves an undertaking comprising a flow of hydraulic fluid into the housing H of the torque converter and interfering with the flow between the turbine and the inner side of the housing to thus increase the rate of fluid flow along one or more laminations of the bypass clutch. The means for interfering with (i.e., opposing) the flow includes the bypass clutch plus at least one additional flow opposing or resisting component. Thus, one of the opponents to the flow of fluid is the bypass clutch itself. The other opponent to the flow interferes with the flow of fluid toward, through and beyond the bypass clutch, i.e., it offers a resistance other than that offered by the bypass clutch alone. Thus, the rate of fluid flow through the bypass clutch is increased.
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> The other undertaking (which can be resorted to jointly with the aforedescribed first undertaking) involves the provision of at least one lamination (such as 10a or 10b) of the stack or package (10) of laminations in the bypass clutch with at least one opening (such as a window) which facilitates or promotes the flow of fluid through the bypass clutch. Openings or passages serving such purpose are shown in FIGS. 5a, 5b (as at 12) and in FIG. 6 (as at 112). The provision of such openings or passages at the radially innermost and/or outermost marginal portions of the laminations contributes to simplicity and lower cost of the solutions. Thus, the teeth at the inner and/or outer circumferences of the laminations rotating with the inner and/or outer lamination carrier cooperate with complementary teeth or tooth spaces of the adjacent parts (such as the inner and/or outer lamination carrier

> 14 and/or 13) to provide adequate paths for easier flow of fluid through the bypass clutch. The dimensions of internally and/or externally toothed parts of the components 10a, 10b, 13 and/or 14 of the bypass clutch can be readily selected in such a way that the rate of fluid flow through the bypass clutch is impeded to a desired (optimum) extent.
>
> The two undertakings can be utilized independently of or jointly with each other. Thus, one can resort to a torque converter which is designed to ensure a more pronounced flow of fluid through the bypass clutch by resorting to one or more additional fluid flow opposing components as well as or by resorting to one or more additional passages or channels.

Thus, it is clear that the two undertakings can take place independently or jointly. In particular, there are measures in a specific area of the torque converter which leads to an increase of the flow resistance, as well as measures that are provided in another area of the torque converter which cause a decrease in the flow resistance. Since the two undertakings are performed in different areas of the torque converter, the two actions can be performed jointly to first increase the flow along the lamination and impeding the flow as a result of the profiling of the laminations and carriers. As stated above, the present torque converter is designed to ensure a more pronounced flow of fluid through the bypass clutch by resorting to one or more additional fluid flow opposing components as well as or by resorting to one or more additional passages or channels.

Reconsideration and withdrawal of this rejection are respectfully requested.

Claim 6 has been amended to overcome the rejection under 35 U.S.C. 112.

Claims 1-6, 11-16 and 48 stand rejected under 35 U.S.C. 102(b) as being anticipated by Kawaguchi et al. Applicants respectfully traverse this rejection based on the present amendment and the following remarks.

In the cited reference, a torque converter is described whose oil flow direction is defined by oil coming from bore holes 17e, streams into a chamber C and then subsequently runs by way of

channels 40 in the friction linings towards the component 31. Due to the conical configuration of the component 31, the oil is thrown in the direction of the radially outer gap between the pump 4 and the turbine 5 by rotation of the torque converter. An outflow of oil then occurs in a gap between the stator 6 and a component 15 (see Figure 1). The oil flow from the radially outer area of the torus (pump 4, turbine 5 and stator 6) in the direction of the axis of rotation of the torque converter combines itself with the toroidal oil stream within the torus.

Applicants respectfully submit that the Kawaguchi reference fails to disclose or even suggest any measures which in a specific area of the torque converter lead to an increase of the flow resistance, nor are there any measures present in another area of the Kawaguchi torque converter which cause a decrease in the flow resistance. The only relevant communality between the present application and the cited reference lies in the arrows for the oil flow that are shown in both cases.

However, as far as this is concerned, Applicants have amended claims 1 and 48 recite the fact that in the present application, a flow of hydraulic fluid in the opposite direction is realized. The flow direction shown in the cited reference is required in that case because after all, the fluid is to be spun off by means of the conical component 31. In contrast, the torque converter of the present invention operates in a different manner as evidenced by the flow of the fluid in the claims.

In addition, claims 1 and 48 reiterate that the two undertakings take place in two different locations of the torque converter. Once again, there is absolutely no disclosure or suggestion in the cited reference that two measures (undertakings) are provided for altering the flow characteristics so that an optimum flow of hydraulic fluid through the clutch is realized. Since neither the first and second undertakings are disclosed or even suggested, the rejection should be withdrawn.

Based on the foregoing, Applicants respectfully submit that each of independent claims 1 and 48 contains at least one feature that is neither disclosed nor suggested by the cited reference and therefore, reconsideration and withdrawal of the rejection are in order.

Claims 2-6 and 11-16 should be allowed as depending from what should be an allowed independent claim 1, as amended.

Claims 7-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al. However, these claims should be allowed as depending from what should be an allowed independent claim 1, as amended.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By _____

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